



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/841,871	04/24/2001	David M. Keicher	ODC1120-DIVA	6152

7590

11/20/2002

Jeffrey D. Myers  
Peacock, Myers & Adams  
P. O. Box 26927  
Albuquerque, NM 87125-6927

EXAMINER

FULLER, ERIC B

ART UNIT

PAPER NUMBER

1762

DATE MAILED: 11/20/2002

14

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	09/841,871		KEICHER ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Eric B Fuller		1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 September 2002.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
     If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
     \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
     a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>13</u> | 6) <input type="checkbox"/> Other:  |

## **DETAILED ACTION**

### ***Priority***

If applicant desires priority under 35 U.S.C. 120 based upon a previously filed copending application, specific reference to the earlier filed application must be made in the instant application. This should appear as the first sentence of the specification following the title, preferably as a separate paragraph. The status of nonprovisional parent application(s) (whether patented or abandoned) should also be included. If a parent application has become a patent, the expression "now Patent No. \_\_\_\_\_" should follow the filing date of the parent application. If a parent application has become abandoned, the expression "now abandoned" should follow the filing date of the parent application.

Specifically, Application No. 09/010,673 is the only application referred to as priority in the specification. However, this application did not have codependency with the present application. Application No. 09/119,317, which did have codependency with both applications, is not referred to.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Uchiyama et al. (US 5,208,431).

Uchiyama teaches a process of producing objects by laser spraying. Spraying a powdered material towards a substrate and melting the material with a laser beam prior to it reaching the substrate, which causes the material to fuse into a thin layer on the substrate, performs this process (column 1, lines 45-65). A multi-axis table provides relative movement of the substrate. There are two laser beams (figure 2, ref. 1 and 2) and multiple nozzles (figure 2, ref. 3) that are all directed to approximately the same location. From figure 2, it can be seen that the nozzles are coupled to the lasers through a CPU and that the lasers comprise an assembly.

As to claim 4, a computer is used to control the movement of a table so that molds are not required (column 3, lines 1-15 and 60-65).

As to claim 6, both laser beams are used to create the entire article, including the featureless regions.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5 and 7-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchiyama et al. (US 5,208,431).

As to claim 5, Uchiyama teaches the limitations of claim 1, but fails to teach a single laser can be used to outline the features of the object being produced. However, Uchiyama teaches that the second laser is used in order to heat the substrate in order to smooth it. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to not use the second laser when creating an outlined feature of the object, as smoothness would not be desired.

As to claim 7, Uchiyama also fails to teach that the lasers may be modulated on and off. However, it would have been obvious at the time the invention was made to a person having ordinary skill in the art that since the lasers are from different sources, they may be modulated on and off independently from one another. As written, one line deposit made will read on this claim.

As to claims 8-10, and 12-16, it is the position of the examiner that it is well known that deposition time may be decreased if the deposition area is increased. Therefore, to have a second set of spray nozzles and lasers directed to the same substrate would have been obvious at the time the invention was made to a person having ordinary skill in the art. By doing so, the deposition area is twice as large and the deposition time is reduced. This second set of lasers and spray nozzles read on the limitations of these claims.

Claim 3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchiyama et al. (US 5,208,431), as applied to claims 1 and 9, in view of Schaefer et al. (US 4,200,669).

Uchiyama teaches or makes obvious the limitations of claims 1 and 9, but fails to teach that the powdered material may be vaporized. However, Schaefer, in a laser spraying method, teaches that by partially vaporizing the powdered material by the laser causes the particles to accelerate (column 3, lines 5-15). The advantage of this is that less carrier gas may be used (column 2, lines 60-68). To partially vaporize the powdered material in Uchiyama by a laser would have been obvious at the time the invention was made to a person having ordinary skill in the art. By doing so, less carrier gas may be used.

### ***Response to Arguments***

Applicant argues that since Uchiyama teaches two separate lasers, it fails to teach a laser assembly and the lasers are not coupled with the spray nozzles. This argument is not found convincing. Examiner points to figure 2 of the reference in which the two lasers and the multiple nozzles are all connected to a central computer. The connections with the computer read on the nozzles being coupled with the lasers. The arrangement of the lasers had to be assembled that way and thus reads on being an assembly.

### ***Conclusion***


**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric B Fuller whose telephone number is (703) 308-6544. The examiner can normally be reached on Mondays through Thursdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck, can be reached at (703) 308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



EBF  
November 17, 2002



SHRIVE P. BECK  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700